

### **Abstract of the Invention**

A gas spring includes an outer tube; a base plate; a head plate; an inner tube  
5 mounted to extend between the head plate and the base plate; a piston/rod assembly  
mounted to reciprocate vertically in the inner tube between a retracted, compressed  
position and an extended, rest position; a valve ring coaxially mounted around the rod to  
reciprocate between the main piston and head plate; a primary gas chamber; a relief  
chamber; seals for preventing fluid flow from the primary and relief chambers; a  
10 passageway providing communication between the primary gas chamber and relief  
chamber; and, valve apparatus for controlling fluid flow between the primary and relief  
chambers. The valve apparatus operates to open and close the fluid flow as a function of  
the position and direction of travel of the piston/rod assembly.

15